

dos-15

reference card

digital



MONITOR STARTUP PROCEDURE

The PDP-15 requires one of two startup procedures, depending upon the system configuration being used. The Unichannel-15 configuration requires that PIREX be loaded into the PDP-11 memory before loading the Bootstrap; the standard PDP-15 configuration requires only the Bootstrap.

When using the Unichannel-15 configuration, load ABSL11 into location 17700₈ by a hardware read-in. The ABSL11 program will halt until the operator starts the PDP-11 processor. The START addresses for the PDP-11 are as follows:

60000₈ — 4K¹ systems, 100000₈ — 8K systems, 120000₈ — 12K systems

To start the PDP-11 processor, set the address switches to the desired values as shown above. Set the HALT/ENABLE switch on ENABLE, press the LOAD ADDRESS switch, and then the START switch.

Next, load a PDP-11 absolute paper tape (such as PIREX) into the PDP-15 paper tape reader and press the CONTINUE switch on the PDP-15 console. The ABSL11 program will read the absolute information into the PDP-15 memory and then into the PDP-11 memory.

When using either system configuration, place the proper Bootstrap (DECdisk, Disk Cartridge, or Disk Pack) in the paper tape reader. Set the PDP-15 ADDRESS to 37637 (or highest bank). Press STOP and RESET, then READ-IN. To restart the Bootstrap: set the PDP-15 ADDRESS to 37646 (or highest bank), press STOP and RESET, then START.

Set the PDP-15 address to:

For Start: 37637—16K
57637—24K
77637—32K

For Restart: 37646—16K
57646—24K
77646—32K

¹DOS-15 V3A000 systems only.

KEYBOARD COMMANDS

Terminate all commands, except CTRL commands, with either RETURN or ALT MODE.

SYSTEM PROGRAM LOAD COMMANDS

CHAIN	EDIT	LOAD	SGEN
DDT	EDITVP	MACRO	SRCCOM
DDTNS	EDITVT	MAC11 *	UPDATE
DTCOPY	EXECUTE	MTDUMP	8TRAN
DUMP	F4	PATCH	89TRAN
SPOOL*	GLOAD	PIP	SPLGEN*
SPLOAD*			

MISCELLANEOUS COMMANDS

In the following examples, square brackets [] indicate optional quantities; braces { } indicate a choice of one; and a required space is indicated by _.

Command

Function

API _ { ON OFF }	Enable or disable API
A [SSIGN] _ { dev dev<uic> <uic> } _ n [, n, ... / ... / ...]	Attach device and/or UIC to DAT/UFDT slot(s). (n = DAT/UFDT slot)
BANK _ { ON OFF }	Set system's direct addressing mode to Bank (8K) or Page (4K).
BUFFS _ n	Set number (n) buffers in Monitor's buffer pool.
C [HANNEL] _ { 7 9 }	Set MAGtape channel count.
D [ATE] [_ mm [/] dd [/] yy]	Examine or enter current date (mm = month, dd = date, yy = year, / = optional delimiter)
GET $\begin{bmatrix} P \\ T \\ S \end{bmatrix}$ [_ n] [_ filnam _ ext]	Restore core image from QAREA or device on .DAT -14 if filename specified. Start automatically at CTRL P, T, S address if specified. (n = Disk Pack unit number.)
H [ALT]	Set Monitor to execute unconditional halt after unrecoverable IOPS error.

*for UC15 systems only.

MISCELLANEOUS COMMANDS (Cont.)

Command	Function
I [NSTRUCT] [☐ ERRORS]	Type list of Keyboard Commands or Errors on .DAT -12.
K [EEP] ☐ $\begin{cases} \text{ON} \\ \text{OFF} \end{cases}$	Retain (ON) or reset (OFF) DAT/UFDT assignments upon return to Monitor from user or system program.
L [OG]	Accept subsequent TTY input as comments until ALT MODE is typed.
LOGIN ☐ uic	Enter User Identification Code into system.
LOGOUT	Delete previous UIC or MIC entry and reset system to default state.
LP ☐ $\begin{cases} \text{ON} \\ \text{OFF} \end{cases}$	Cause output resulting from REQUEST and SCOM commands to appear on Line Printer.
MICLOG ☐ mic	Enter Monitor Identification Code into system.
PAGE ☐ $\begin{cases} \text{ON} \\ \text{OFF} \end{cases}$	Opposite of BANK command.
POLLER ☐ $\begin{cases} \text{ON} \\ \text{OFF} \end{cases}$	Enable or disable the error poller on a UNICHANNEL-15 system.
P [ROTECT] ☐ n	Alter system's current default file protection code parameter (1 = unprotected, 2 = write protected, 3 = read/write protected).
PUT ☐ [n ☐] filnam ☐ ext	Create file with specified name on .DAT -14 device from system device QAREA. (n=Disk Pack unit number)
Q [DUMP]	Perform automatic core dump into QAREA of system device after unrecoverable (i.e., non-disk unrecoverable) IOPS error.
R [EQUEST] [☐ $\begin{cases} \text{program} \\ \text{USER} \end{cases}$]	Type .DAT/UFDT slot assignments for entire system, system program, or user.
S [COM]	Type system configuration information.
T [IME] [☐ hhmm]	Examine or set current time of day (24 hour clock).
TIMEST ☐ $\begin{cases} \text{mm:} \\ \text{mm:ss} \\ \text{ss} \end{cases}$	Abort current operation after specified interval has elapsed and return to Monitor.
X [4K] ☐ $\begin{cases} \text{ON} \\ \text{OFF} \end{cases}$	Instruct system to use additional 4K memory page (20 and 28K systems).
33TTY ☐ $\begin{cases} \text{ON} \\ \text{OFF} \end{cases}$	Condition Monitor to operate with LA30 (110 baud), LA36 or model 33-ON; or Models 35 or 37 or LA30 (300 baud) -OFF.
LA30 ☐ $\begin{cases} \text{ON} \\ \text{OFF} \end{cases}$	Condition Monitor to operate with LA30 (300 baud) - ON; or LA36, LA30 (110 baud) or models 35 or 37 - OFF.

CONTROL CHARACTER COMMANDS

Command	Function
CTRL C	Restart Non-Resident Monitor
CTRL P	Begin program execution at location specified in last .INIT to TTY.
CTRL Q [<u> </u> n]	Save core image on QAREA of system device (n=0 - 7 Disk Pack unit).
CTRL R	Continue operation after IOPS 4 (Device Not Ready) error condition corrected.
CTRL U	Delete TTY line (input) or prematurely terminate output line.
RUBOUT	Delete last character typed (unless it is a previous RETURN or ALT MODE).
CTRL S	Start a program loaded via the load command

VT-15 DISPLAY COMMANDS

Command	Function
VT <u> </u> { ON OFF }	Instruct Monitor to load VT-15 text display code.
HALF <u> </u> { ON OFF }	Use half (ON) or full (OFF) display buffer.
CTRL X	Change from teleprinter to VT-15 operation and vice-versa.

BATCHING MODE COMMANDS

Command	Function
BATCH <u> </u> { CD PR } *****	Enter Command Batching Mode with card reader (CD) or paper tape (PR) input.
\$JOB	Job separator
\$PAUSE	Terminate batch device input until CTRL R typed
\$DATA	Data separator (beginning of data)
\$END	End of data
\$EXIT	Leave Batch Mode
CTRL T	Skip to next job
CTRL C	Leave Batch Mode

DATA MODE TERMINATORS

MODE	INPUT	OUTPUT
IOPS ASCII	Carriage RETURN ALT MODE Word Pair Count* EOM Word Count** EOF*	Carriage RETURN ALT MODE Word Pair Count***
IOPS Binary	Word Pair Count EOM Word Count** EOF*	Word Pair Count
Image Alpha- numeric Image Binary	Word Count EOM EOF*	Word Pair Count
Dump	Word Count EOM EOF	Word Count

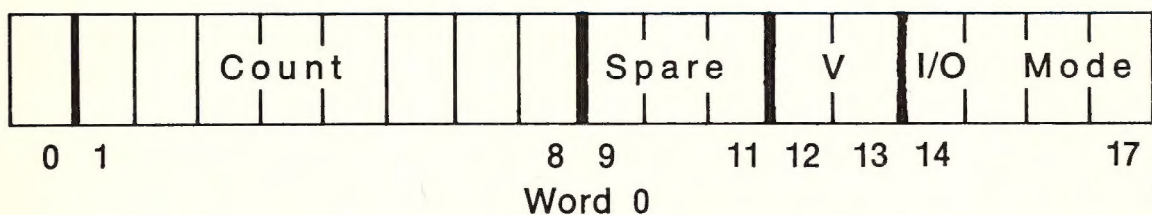
***Mass storage only.**

****If word count is exceeded before a terminator is encountered, IOPS sets bits 12 and 13 of Header Word 0 to 3 (Buffer Overflow).**

*****If the Word Pair Count is 1 or less, the line is ignored; if greater than 1, the count is ignored and Carriage RETURN or ALT MODE is accepted (non-mass storage devices only). Mass storage devices require a Word Pair count of 1 or greater, but less than 177, otherwise IOPS 23 error results.**

****For CR03B card read ONLY.

LOGICAL RECORD HEADER WORD PAIR FORMAT



Bit 0 If 1, ignore checksum on binary output

1 - 8 Word Pair Count (incl. header pair)

9 - 11	Unused
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12 - 13 Validity Bits: 0 = Data correct
 1 = Parity error
 2 = Checksum error
 3 = Buffer overflow

14 - 17 I/O Mode bits:

0 = IOPS Binary

1 = Image Binary

2 = IOPS ASCII

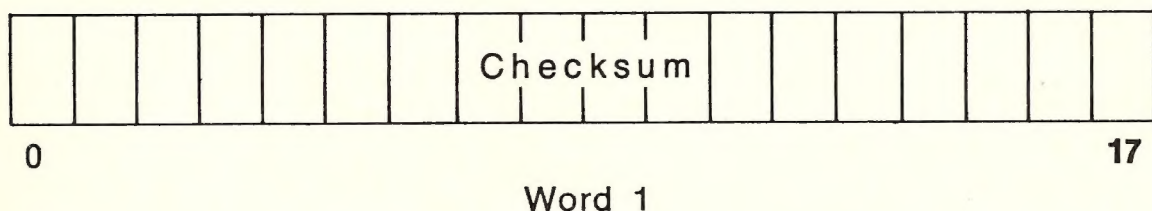
3 = Image Alpha

4 = Unused

5 = EOF encountered

6 = EOM encountered

7 = MAGtape label



Bits 0- 17 contain checksum if computed (0's if not)

SYSTEM MACROS

<u>.INIT $\underline{\hspace{1cm}}$ [-] ds,dd,restrt</u> CAL+dd*1000 $\underline{\hspace{1cm}}$ [-] ds & 777 1 restrt 0	<u>.WRITE $\underline{\hspace{1cm}}$ [-] ds,m,bufadd,cnt</u> CAL+m*1000 $\underline{\hspace{1cm}}$ [-] ds & 777 11 bufadd -wdc
<u>.DELETE $\underline{\hspace{1cm}}$ [-] ds,namptr¹</u> CAL+1000 $\underline{\hspace{1cm}}$ [-] ds & 777 2 namptr	<u>.WAIT $\underline{\hspace{1cm}}$ [-] ds</u> CAL $\underline{\hspace{1cm}}$ [-] ds & 777 12
<u>.RENAM $\underline{\hspace{1cm}}$ [-] ds,namptr¹</u> CAL+2000 $\underline{\hspace{1cm}}$ [-] ds & 777 2 namptr	<u>.WAITR $\underline{\hspace{1cm}}$ [-] ds,busyad</u> CAL+1000 $\underline{\hspace{1cm}}$ [-] ds & 777 12 busyad
<u>.FSTAT $\underline{\hspace{1cm}}$ [-] ds,namptr^{1,2}</u> CAL+3000 $\underline{\hspace{1cm}}$ [-] ds & 777 2 namptr	<u>.TRAN $\underline{\hspace{1cm}}$ [-] ds,d,blk,bufadd,cnt⁴</u> CAL+d*1000 $\underline{\hspace{1cm}}$ [-] ds & 777 13 blk bufadd -cnt
<u>.RTRAN $\underline{\hspace{1cm}}$ [-] ds,d,relblk,bufadd,beg,cnt⁴</u> CAL+4000 $\underline{\hspace{1cm}}$ [-] ds & 777 2 d*400000+relblk bufadd beg -cnt	<u>.TIMER $\underline{\hspace{1cm}}$ nnnnnn,⁴ address</u> CAL 14 address -nnnnnn
<u>.RAND $\underline{\hspace{1cm}}$ [-] ds,namptr³</u> CAL+5000 $\underline{\hspace{1cm}}$ [-] ds & 777 2 namptr 0	<u>.EXIT</u> CAL 15
<u>.SEEK $\underline{\hspace{1cm}}$ [-] ds,namptr</u> CAL $\underline{\hspace{1cm}}$ [-] ds & 777 3 namptr	<u>.GVBUF</u> CAL 22 0
<u>.ENTR $\underline{\hspace{1cm}}$ [-] ds,namptr,p</u> CAL+1000*p $\underline{\hspace{1cm}}$ [-] ds & 777 4 namptr	<u>.GTBUF</u> CAL 21 0
<u>.CLEAR $\underline{\hspace{1cm}}$ [-] ds</u> CAL $\underline{\hspace{1cm}}$ [-] ds & 777 5	<u>.USER $\underline{\hspace{1cm}}$ [-] ds,uic</u> CAL $\underline{\hspace{1cm}}$ [-] ds & 777 23 uic
<u>.CLOSE $\underline{\hspace{1cm}}$ [-] ds</u> CAL $\underline{\hspace{1cm}}$ [-] ds & 777 6	<u>.OVERLA $\underline{\hspace{1cm}}$ namptr</u> CAL 24 namptr
<u>.MTAPE $\underline{\hspace{1cm}}$ [-] ds,nn</u> CAL+nn*1000 $\underline{\hspace{1cm}}$ [-] ds & 777 7	<u>.GET $\underline{\hspace{1cm}}$ f,namptr,u</u> CAL+f 25 u*100000+namptr
<u>.READ $\underline{\hspace{1cm}}$ [-] ds,m,bufadd,cnt</u> CAL+m*1000 $\underline{\hspace{1cm}}$ [-] ds & 777 10 bufadd -wdc	<u>.PUT $\underline{\hspace{1cm}}$ f,namptr,u</u> CAL+f 26 u*100000+namptr

¹Upon return the AC contains the first block number of the file or zero if the file doesn't exist.

²See the footnote to namptr on the following page.

³Upon return the fourth word of the expansion contains the number of blocks in the file.

⁴Decimal radix.

Abbreviations Used With System Macros

addres = Address for data transfer	nnnnnn = Time interval in ticks ($0 \leq n \leq 262143$)
beg = First physical word of block	relblk = Relative Block No. ($1 \leq \text{relblk} \leq \text{block size, see .RAND}$)
blk = Block number	restrt = Restart address
bufadd = Buffer address	u = Device unit number
cnt = Number of words to transfer	uic = User identification Code
d = Direction for .TRAN	nn = .MTAPE subfunction*
0 = input forward	0 = rewind to load point
1 = output forward	2 = backspace record
2 = input reverse (DECtape)	3 = backspace file
3 = output reverse (DECtape)	4 = write end-of-file
dd = Direction of .INIT	5 = skip record
0 = input	6 = skip file
1 = output	7 = skip to logical EOT
5 = Suppress form feed after 57 lines (line printer only)	10 = 7-ch, EP, 200 BPI
11 = output with write check (disk only)	11 = 7-ch, EP, 556 BPI
ds = DAT/UFDT slot number	12 = 7-ch, EP, 800 BPI
f = Function:	13 = 9-ch, EP, 800 BPI
0 = start at address in LOC+3 of .PUT	14 = 7-ch, OP, 200 BPI
1 = start at CTRL P address	15 = 7-ch, OP, 556 BPI
2 = start at CTRL T address	16 = 7-ch, OP, 800 BPI
3 = start at CTRL S address	17 = 9-ch, OP, 800 BPI
4 = start at "f" specified in PUT	*EP = even parity; OP = odd
mic = Master Identification Code	namptr ¹ = Pointer to 3-word block containing filename and extension in .SIXBT
busyad = address to return to if I/O is still underway	

p = disk file protection code
 1 = file is unprotected
 2 = file is WRITE protected
 3 = file is READ/WRITE protected

m = I/O mode
 0 = IOPS Binary
 1 = Image Binary
 2 = IOPS ASCII
 3 = Image Alphanumeric
 4 = Dump Mode
wdc = word count

¹ namptr = upon return from .FSTAT, bits 0—2 have XORd in them a code indicating the type device associated with .DAT slot (ds). The codes are:
 0 = Non-directoried device
 1 = DECtape file structure
 2 = RF DECdisk file structure
 3 = RP Disk Pack file structure
 4 = Magtape
 5 = RK Disk Cartridge file structure

.SCOM TABLE ENTRIES

.SCOM = location 100₈

.SCOM	First free register below Bootstrap
.SCOM+1	First free register above Resident Monitor
.SCOM+2	Lowest free register
.SCOM+3	Highest free register
.SCOM+4	Hardware options available: (Bits-1,4,5,9,10,14,15-17 reserved)

Bit	Function
0	1 = API available
2	1 = TTY is Mod 35/37
3	1 = Nonresident Monitor is in core
6	1 = 9-channel MAGtape default
7	1 = Page Mode operation
8	1 = No CTRL Q area
11	1 = Bank Mode System
12-13	Line Printer Type
	00 = None 10 = 120 lines
	01 = 80 lines 11 = 132 lines

.SCOM+5 Core Image System Program Starting Address

Bit	Function
0	DDT in Core
1	GLOAD
2	DDTNS
3-17	User Program Starting Address

.SCOM+7 - 11 Handler addresses for Linking Loader or filename for Execute and QFILE operation

.SCOM+12 - 15 Transfer Vectors for API Channel
Registers 40₈-43₈

.SCOM+16 PC on keyboard interrupts

.SCOM+17 AC on keyboard interrupts

.SCOM+20 Bit 0 = 1 = Extra 4K (12K, 20K, or 28K)
 1 = 1 = UC15, RK05 based system |
 2 = 1 = 300 baud LA30 console device

Bits 3 - 17 = 1st free location in extra 4K

.SCOM+21 MAGtape status register

.SCOM+22 Reserved for MAGtape handler

.SCOM+23 Bits 3 - 17 = Address of .DAT

.SCOM+24 Number of positive .DAT slots

.SCOM+25 Pointer to .UFDT

.SCOM+26 Number of buffers

.SCOM+27 Number of words per buffer

.SCOM+30 Pointer to buffer transfer vector table

.SCOM+31 Pointer to first entry in overlay table (0 if none)

.SCOM+32 Bad block number on IOPS 72

.SCOM+33 CTRL X status register

Bit 1 = 1 Half-size buffer for VT15
 1 = 1 VT15 buffer setup already
 2 = 1 VT ON issued
 17 = 1 Display Mode on (CTRL X)

.SCOM+34 Elapsed time in seconds

.SCOM+35 Instruction to clear TT busy switch

.SCOM+36 Number of entries in mass storage table

.SCOM+37 Entry point for expanded errors

.SCOM+40 JMP to expanded error handler

.SCOM+41 Current UIC (default "SCR")

.SCOM TABLE ENTRIES (Cont.)

Bit Register:	
Bit	Function
0	1 = MIC login successful
1	1 = Nonresident Monitor .EXIT
2	1 = Nonresident Monitor .OVERLA
3	0 = TTA on .DAT -12 for NRM load 1 = LPA on .DAT -12 for NRM load
4	1 = QDUMP issued
5	1 = HALT issued
14	1 = Setup .DAT +6
15	1 = Load Syst. Dev handler for .DAT -7
16	1 = KEEP issued
17	1 = BATCH mode
.SCOM+43,44	Name of system program to be loaded (.SIXBT)
.SCOM+45,46	Name of Non-Resident Monitor (.SIXBT)
.SCOM+47	Date (mmddyy, six bits each for mm,dd,yy; yy is a Modulo 70 ₁₀)
.SCOM+50	Time (hhmmss, six bits each for hh, mm, ss)
.SCOM+51	Elapsed time in ticks
.SCOM+52	Reserved for BOSS-15
.SCOM+53	Reserved for CTRL X
.SCOM+54	Default Protection Code
.SCOM+55	JMP to routine for using the Bootstrap for .TRAN to system device
.SCOM+56	2's complement of time limit in seconds (0 if no limit)
.SCOM+57	System device code for use by Linking Loader
.SCOM+60	2's complement of number of ticks until clock interrupt specified in last .TIMER
.SCOM+61	Entry point for user clock interrupt routine specified in last .TIMER
.SCOM+62	Address of first word of mass storage busy table
.SCOM+63	Number of words/mass storage active entry (busy table)
.SCOM+64	Contains JMP to CTRL Q/GET routine
.SCOM+65	QFILE communication register
.SCOM+66	First block of CTRL Q area
.SCOM+67	First address -1 of CTRL Q area
.SCOM+70	Size of CTRL Q area
.SCOM+71	Starting address after DUMP or GET
.SCOM+72	Address to go to after CTRL Q
.SCOM+73	2's comp. of number of ticks left for next second
.SCOM+74	2's comp. of number of ticks in a second
.SCOM+75	Number of lines in BOSS RTF (bits 0-8); number of lines read in RTF (bits 9-17)
.SCOM+76	Bit 3 = MAC 11 communication 4 = Poller bit
.SCOM+77	Reserved
.SCOM+100	Pointer to TCB address table
.SCOM+101 through .SCOM+105	Unused

DAT TABLE ENTRIES

.DAT = C(.SCOM+23)

If handler is in core, Bits

0-2	= Unit number
3-17	= Entry address

If handler is not in core, Bits 0-2 = Unit number
3-17 = SGNBLK index number

DOS-15 DISK FILE STRUCTURE

MFD block numbers:

RF = 1777, RK = 1777, RP = 47040

MFD Format

Word #	Contents	Description
0	777777	Dummy UIC
1	nnnnnn	First block of BAT or -1 if none
2	nnnnnn	First block of SYSBLK or -1 if none
3	4+nnnnnn	First SAT block bits 3-17
4n	.SIXBT	UIC for this UFD
4n+1	nnnnnn	First block of UFD or -1 if none
4n+2	P ₀ +nnnnnn	UFD protection code in bit 0, + UFD entry size bits 1-17
4n+3	spare	unused
374	J+nnnnnn	Spool area size bits 2-17
375	K+nnnnnn	Spool area starting block bits 2-17

J and K are a 4-bit checksum of spooler area size and starting block such that J contains the 2 highest bits, K the 2 lowest bits of the r-bit result of: (size + starting block + 1) $\wedge$ 17₈

376	nnnnnn	Pointer to previous block or -1 if none.
377	nnnnnn	Pointer to next block or -1 if none.

UFD FORMAT

8n	.SIXBT	Name and ext of this file
8n+1	.SIXBT	
8n+2	.SIXBT	
8n+3	T+nnnnnn	Bit 0 is truncated file indicator; Bits 1-17 first block of file.
8n+4	nnnnnn	Number of blocks in this file.
8n+5	nnnnnn	First block of RIB
8n+6	P+nnnnnn	File protection code in bits 0-1; first word of RIB in first RIB block in bits 10-17
8n+7	mmddy	File creation date, (yy modulo 70 ₀)

IOPS ERRORS

0	Illegal CAL function code — CAL address
1	CAL* illegal — CAL address
2	.DAT slot error — CAL address
3	Illegal interrupt — I/O status register
4	I/O device not ready*
5	Setup CAL issued with no skip chain entry — CAL address
6	Illegal handler function*
7	Illegal Data Mode*
10	File still active — CAL address**
11	.SEEK/.ENTER/.RAND not executed*
12	Terminal Device Error — Status reg. B and Unit number
13	File not found — CAL address**
14	Directory full — CAL address
15	Device full — CAL address**
16	Output Buffer Overflow — CAL address
17	Too many files for handler*
20	Disk hardware failure (↑ R to retry) — Disk status, blk #, device unit #, CAL Func, UIC
21	Illegal block number — CAL address***
22	Two output files on one tape unit — CAL address
23	Illegal Word Pair Count — CAL address**
25	Negative or 0 character count (IOPS ASCII write) X or Y increment too large (>2**14) (Binary write)
27	Illegal write type
30	API software level not serviced — API status reg

IOPS ERRORS (Cont.)

31	Nonexistent memory reference — PC
32	Memory Protect violation — PC
33	Memory Parity error — PC
34	Power fail with no user-defined save routine — PC
37	Print line overflow — CAL address
40	Header label error (MAGtape) — CAL address
41	Directory Format error (MAGtape) — CAL address
42	Accessibility Map overflow (MAGtape) — CAL address
43	Directory recording error (MAGtape) — CAL address
44	Logical EOT found (MAGtape) — CAL address
45	Long input record (MAGtape) — CAL address
46	Attempt to delete system (SYS) file — CAL address
47	Illegal Horizontal TAB (line printer) — CAL address
51	Illegal User File Directory — CAL address***
55	No buffers available — *
61	Parity error in Directory, Bit Map, or RIB*
63	Protected User File Directory*
64	Protected File — CAL address**
65	Unrecoverable MAGtape error — MT status
66	Relative Block not within file (.RTRAN)**
67	Illegal DECdisk word transfer starting address or count — CAL address**
70	Buffer size too small — CAL address*
71	Empty UFD**
72	Input Parity or Write Check error (↑ R to retry) — CAL address, block No., device/unit No. CAL function, UIC
73	Null File Name given in SEEK/ENTER/DELETE/FSTAT/RAND*
74	Disk System file structure degradation — Attempt to clear submap bit that was already off**
75	Disk System File structure degradation — illegal submap word.
76	Disk System file structure degradation — illegal backward pointer for first MFD or UFD block (↑ R to retry)
77	Undersized or nonexistent CTRL Q area

*Disk only: CAL address, Device and Unit No., CAL function, UIC.

**Disk only: CAL address, Device and Unit No., CAL function, UIC, File name

***Disk only: Block No., Device and Unit No., CAL function, UIC.

LOADER ERRORS — .LOAD OR .SYSLD

1	Memory overflow
2	Data error
3	Subroutine not found
4	.DAT slot assignment error
5	Prog segment greater than 4K (page mode)

OBJECT TIME SYSTEM ERRORS — .OTS

5	Illegal real square root ARG
6	Illegal double square root ARG
7	Illegal Index in computed GOTO
10	Illegal I/O dev #
11	Illegal input data
12	Illegal format statement
13	Illegal real log ARG
14	Illegal double log ARG
15	Zero raised to zero or negative power
16	ATAN2 (0.0,0.0)
17	DATAN2 (0.0D0, 0.0D0)
21	Undefined file

OBJECT TIME SYSTEM ERRORS – .DTS (Cont.)

22	Illegal record size
23	Size discrepancy
24	Too many records or illegal record #
25	Mode discrepancy
26	Too many open files
30	Single integer overflow
31	Extended (double) integer overflow
32	Single precision floating point overflow
33	Double precision floating point overflow
34	Single precision floating point underflow
35	Double precision floating point underflow
36	Floating point divide check
37	Integer divide check
40	Illegal character count
41	Array exceeded
42	Bad input data
50	FPP memory protect/non-existent memory violation
51	Illegal I/O direction change to disk

UC15 SYSTEM ERROR MESSAGES

The Error Messages from tasks running under PIREX have the following format:

IOPSUC YYY XXXX

Where YYY denotes one of the following:

EST	Stop all I/O	task
ESD	Software Driver	task
RKU	Disk Cartridge	task
DTU	DECtape	task
LPU	Line Printer	task
CDU	Card Reader	task
PLU	Plotter	task
ESP	Spooler	task
EMA	MACII	task

XXXX denotes one of the following:

- 3—Illegal interrupt to driver
- 4—Device not ready
- 12—Device failure
- 15—Spooler full—warning message
- 20—Spooler disk error—abort
- 45—Greater than 80 columns in card
- 55—No spooler buffers available
- 72—Illegal punch combinations
- 74—Timing error—card column lost—retry card
- 75—Hardware busy—driver not
- 76—Hardware error between cards
- 77—Unrecognized task request—device not present
- 400—Spooler empty—PDP15 input request pending

Additional IOPS error messages:

Error Code

Meaning

200	Non-existent task referenced.
300	Illegal API level given (illegal values are changed to level 3 and processed).
400	Illegal directive code given.
500	No free core in the PDP-11 local memory.
600	ATL node for this TCN missing.
777	Request node was not available from the POOL: i.e., the POOL was empty and the referenced task was currently busy or the task did not have an ATL node in the Active Task List.



For additional copies of this card, order
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